

Comparisons of Job Characteristics

Focus Occupation: [Civil Engineering Technicians \(17-3022\)](#)

Associated Occupation: [Engineering Technicians, Except Drafters, All Other \(17-3029\)](#)

[Compare Knowledge](#)

[Compare Skills](#)

[Compare Abilities](#)

[Compare Detailed Work Activities](#)

[Compare Tools and Technologies](#)

<<	Focus occupation element is much lower
<	Focus occupation element is lower
0	Focus occupation element is at a similar level
>	Focus occupation element is at a higher level
>>	Focus occupation element is at a much higher level

Knowledge

Similarity of Focus Occupation to Associated Occupation: 57

Focus Occupation: Civil Engineering Technicians (17-3022)

Associated Occupation: Engineering Technicians, Except Drafters, All Other (17-3029)

Associated Occupation's Key Knowledge Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating	Evaluation of Focus Occupation	
Engineering and Technology	5.7	17.6	15.6	<	Expanded education and/or training may be required
Mathematics	9.2	16.6	15.0	<	Expanded education and/or training may be required
Mechanical	6.8	16.6	4.5	<<	Extensive education and/or training may be required
Computers and Electronics	8.4	16.2	10.8	<<	Extensive education and/or training may be required
Design	5.2	15.1	14.1	0	Current knowledge level may be sufficient
Production and Processing	6.0	13.3	3.7	<<	Extensive education and/or training may be required
Physics	4.3	12.9	7.0	<<	Extensive education and/or training may be required
Telecommunications	3.9	7.4	3.1	<<	Extensive education and/or training may be required

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Skills

Similarity of Focus Occupation to Associated Occupation: 48

Focus Occupation: Civil Engineering Technicians (17-3022)

Associated Occupation: Engineering Technicians, Except Drafters, All Other (17-3029)

Associated Occupation's Key Skills Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating	Evaluation of Focus Occupation	
Operation Monitoring	6.6	12.1	6.8	<<	Extensive development of skills in this area may be required
Quality Control Analysis	5.9	11.5	4.8	<<	Extensive development of skills in this area may be required

Mathematics	6.2	10.8	8.7	<	A higher skill level may be required
Troubleshooting	4.5	10.6	3.4	<<	Extensive development of skills in this area may be required
Equipment Maintenance	3.5	10.4	1.0	<<	Extensive development of skills in this area may be required
Equipment Selection	3.3	9.4	1.3	<<	Extensive development of skills in this area may be required
Repairing	3.4	9.4	1.0	<<	Extensive development of skills in this area may be required
Technology Design	2.6	7.0	2.8	<<	Extensive development of skills in this area may be required
Installation	1.7	6.2	1.0	<<	Extensive development of skills in this area may be required
Programming	2.2	4.9	1.8	<<	Extensive development of skills in this area may be required

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Abilities

Similarity of Focus Occupation to Associated Occupation: 94

Focus Occupation: Civil Engineering Technicians (17-3022)

Associated Occupation: Engineering Technicians, Except Drafters, All Other (17-3029)

Associated Occupation's Key Abilities Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating		Evaluation of Focus Occupation
Visualization	7.5	12.3	11.4	0	Current ability level may be sufficient
Information Ordering	9.9	12.0	10.3	<	Some improvement in abilities may be required
Mathematical Reasoning	6.3	11.2	10.3	0	Current ability level may be sufficient
Flexibility of Closure	7.8	10.5	7.4	<<	Extensive improvement in abilities may be required
Perceptual Speed	7.4	10.3	6.7	<<	Extensive improvement in abilities may be required
Number Facility	6.3	10.2	9.2	<	Some improvement in abilities may be required
Visual Color Discrimination	6.4	9.6	6.7	<<	Extensive improvement in abilities may be required
Memorization	5.6	7.5	6.9	0	Current ability level may be sufficient

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

There are no common work activities.

Tools and Technologies that Both Occupations Have in Common

Similarity of Focus Occupation to Associated Occupation: 70

Focus Occupation: Civil Engineering Technicians (17-3022)

Associated Occupation: Engineering Technicians, Except Drafters, All Other (17-3029)

Tools and Technologies	Exclusivity
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Chemical evaluation instruments and supplies	10
Computer data input devices	2
Computer printers	2
Computers	1
Content authoring and editing software	1
Cutting and crimping and punching tools	3
Electrochemical measuring instruments and accessories	9
Fluid mechanics equipment	11
Indicating and recording instruments	2
Industry specific software	1
Information exchange software	1
Laboratory heating and drying equipment	13
Laboratory ovens and accessories	15
Length and thickness and distance measuring instruments	2
Measuring and layout tools	3
Mechanical instruments	14
Metals and metallurgy and structural materials testing instruments	15
Network applications software	1
Pipettes and liquid handling equipment and supplies	16
Safety apparel	4
Temperature and heat measuring instruments	6
Transducers	23
Vision protection and accessories	3
Weight measuring instruments	7

Not all positions in these occupations will necessarily use all of the listed tools and technologies. The exclusivity rating is an indication of how unique the tool or technology is amongst all occupations. The maximum rating is 100. High scores indicate that only a small number of occupations use that tool or technology.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.